

Serial No. 09/421,434
April 19, 2004
Reply to the Office Action dated December 12, 2003
Page 3 of 12

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1 and 2 (canceled).

Claim 3 (currently amended): The method according to Claim ~~14~~, wherein a vibration level of the piezoelectric transformer apparatus caused by the stress signal is within a range of a vibration level of the piezoelectric transformer apparatus in actual use to a vibration level of a fatigue limit of a reference piezoelectric transformer apparatus.

Claim 4 (currently amended): ~~The method according to Claim 1, A method for manufacturing and screening a piezoelectric transformer apparatus including a piezoelectric member having an actuator and a generator provided in the piezoelectric member, the method comprising the steps of:~~

beginning manufacturing of the piezoelectric transformer apparatus;

connecting a load impedance to said generator;

applying a stress signal to said actuator to vibrate the piezoelectric transformer apparatus;

identifying whether the transformer apparatus has a mechanical latent defect;

and

completing the manufacture of the piezoelectric transformer apparatus after the step of identifying whether the transformer apparatus has the mechanical latent defect;
wherein

Serial No. 09/421,434

April 19, 2004

Reply to the Office Action dated December 12, 2003

Page 4 of 12

the value of the load impedance is not less than about ten times an output impedance of the piezoelectric transformer apparatus.

Claim 5 (currently amended): ~~The method according to Claim 1,~~ A method for manufacturing and screening a piezoelectric transformer apparatus including a piezoelectric member having an actuator and a generator provided in the piezoelectric member, the method comprising the steps of:

beginning manufacturing of the piezoelectric transformer apparatus;

connecting a load impedance to said generator;

applying a stress signal to said actuator to vibrate the piezoelectric transformer apparatus;

identifying whether the transformer apparatus has a mechanical latent defect;

and

completing the manufacture of the piezoelectric transformer apparatus after the step of identifying whether the transformer apparatus has the mechanical latent defect;

wherein

the value of the load impedance is not more than about one tenth of an output impedance of the piezoelectric transformer apparatus.

Claim 6 (currently amended): The method according to Claim ~~14~~, wherein the load impedance includes a resistance element.

Claim 7 (currently amended): The method according to Claim ~~14~~, wherein the stress signal is a sinusoidal continuous wave.

Claim 8 (canceled).

Serial No. 09/421,434

April 19, 2004

Reply to the Office Action dated December 12, 2003

Page 5 of 12

Claim 9 (currently amended): The method according to Claim 84, wherein the stress signal is a sinusoidal burst wave; and

a duty ratio of the burst wave is not more than about 10%.

Claim 10 (currently amended): The method according to Claim 44, wherein the piezoelectric transformer apparatus is cooled.

Claim 11 (currently amended): The method according to Claim 44, wherein the piezoelectric transformer apparatus is a Rosen-type piezoelectric transformer apparatus.

Claim 12 (currently amended): The method according to Claim 44, wherein the piezoelectric transformer apparatus includes a single piezoelectric plate.

Claim 13 (currently amended): The method according to Claim 44, wherein the piezoelectric transformer apparatus includes multiple piezoelectric plates.

Claims 14-20 (canceled).

Claim 21 (new): The method according to Claim 5, wherein the stress signal is a sinusoidal burst wave; and

a duty ratio of the burst wave is not more than about 10%.

Claim 22 (new): The method according to Claim 5, wherein a vibration level of the piezoelectric transformer apparatus caused by the stress signal is within a range of a vibration level of the piezoelectric transformer apparatus in actual use to a vibration level of a fatigue limit of a reference piezoelectric transformer apparatus.

Serial No. 09/421,434

April 19, 2004

Reply to the Office Action dated December 12, 2003

Page 6 of 12

Claim 23 (new): The method according to Claim 5, wherein the load impedance includes a resistance element.

Claim 24 (new): The method according to Claim 5, wherein the stress signal is a sinusoidal continuous wave.

Claim 25 (new): The method according to Claim 5, wherein the piezoelectric transformer apparatus is cooled.

Claim 26 (new): The method according to Claim 5, wherein the piezoelectric transformer apparatus is a Rosen-type piezoelectric transformer apparatus.

Claim 27 (new): The method according to Claim 5, wherein the piezoelectric transformer apparatus includes a single piezoelectric plate.

Claim 28 (new): The method according to Claim 5, wherein the piezoelectric transformer apparatus includes multiple piezoelectric plates.